

What is claimed:

1. An Internet protocol (IP) networking architecture for an aircraft, the architecture comprising:

a command and control sub-network (CCN) interconnecting a plurality of control interfaces wherein each control interface has a corresponding logical CCN address;

a passenger services sub-network (PSN) interconnecting a plurality of passenger interfaces wherein each passenger interface has a corresponding logical PSN address; and

an air-to-ground sub-network (AGN) providing Internet access to the passenger interfaces via one or more isolation systems having corresponding logical CCN addresses and corresponding logical PSN addresses such that devices communicating on the AGN and the PSN are blocked from accessing the CCN addresses.

2. The architecture of claim 1 wherein the isolation systems have logical AGN addresses corresponding to an aircraft identifier such that the aircraft has a unique subnet address.

3. The architecture of claim 2 wherein an airborne router is defined as one of the isolation systems, the airborne router having a device identifier such that the aircraft identifier and the device identifier define the logical AGN address for the airborne router.

4. The architecture of claim 2 wherein a web server is defined as one of the isolation systems, the web server having a device identifier such that the aircraft identifier and the device identifier define the logical AGN address for the web server.

5. The architecture of claim 1 wherein a seat electronics box is defined as one of the passenger interfaces, the logical PSN address of the set electronics box acting as a proxy for devices coupled to the seat electronics box.

6. The architecture of claim 5 wherein the seat electronics box has seat processor for translating PSN addresses into AG addresses in accordance with the address resolution protocol.

7. The architecture of claim 5 wherein a port is defined as one of the passenger interfaces, the port having a logical PSN address for which the logical PSN address of the seat electronics box serves as a proxy.

8. The architecture of claim 5 wherein a passenger-supplied computing device is defined as one of the passenger interfaces, the passenger-supplied computing device having a logical PSN address for which the logical PSN address of the seat electronics box serves as a proxy.

9. The architecture of claim 1 wherein one or more seat electronics boxes are defined as being control interfaces such that the seat electronics boxes have corresponding logical CCN addresses.

10. The architecture of claim 9 wherein one or more area distribution boxes are defined as being control interfaces such that the area distribution boxes have corresponding logical CCN addresses, the area distribution boxes serving as hubs for the seat electronics boxes.

11. The architecture of claim 1 wherein the AGN further provides Internet access to a plurality of crew interfaces wherein each crew interface has a corresponding logical AGN address.

12. The architecture of claim 11 wherein an aircraft interface unit is defined as one of the crew interfaces such that the aircraft interface unit has a corresponding logical AGN address.

13. The architecture of claim 11 wherein a control panel is defined as one of the crew interfaces such that the control panel has a corresponding logical AGN address.

14. The architecture of claim 11 wherein a media server is defined as one of the crew interfaces such that the media server has a corresponding logical AGN address.

15. An IP networking architecture for an aircraft, the architecture comprising:

a command and control sub-network (CCN) interconnecting a plurality of seat electronics boxes and area distribution boxes, the seat electronics boxes and area distribution boxes being defined as control interfaces such that each control interface has a corresponding logical CCN address;

said area distribution boxes serving as hubs for the seat electronics boxes;

a passenger services sub-network (PSN) interconnecting a plurality of passenger interfaces wherein each passenger interface has a corresponding logical PSN address;

said seat electronics boxes being further defined as passenger interfaces such that the seat electronics boxes have corresponding logical PSN addresses; and

an air-to ground sub-network (AGN) providing Internet access to the passenger interfaces via one or more isolation systems having corresponding logical CCN addresses and corresponding logical PSN addresses such that devices communicating on the AGN and the PSN are blocked from accessing the CCN addresses;

said AGN further providing Internet access to a plurality of crew interfaces wherein each crew interface has a corresponding logical AGN address.

16. The architecture of claim 15 wherein the isolation systems have logical AGN addresses corresponding to an aircraft identifier such that the aircraft has a unique subnet address.

17. A method for structuring Internet protocol (IP) addresses within an aircraft, the method comprising the steps of:

assigning logical command and control sub-network (CCN) addresses to a plurality of control interfaces;

assigning logical passenger services sub-network (PSN) addresses to a plurality of passenger interfaces; and

assigning a logical CCN address, a logical PSN address and a logical air-to-ground sub-network (AGN) address to an isolation system such that devices communicating on the AGN and the PSN are blocked from accessing the CCN addresses.

18. The method of claim 17 further including the step of assigning an aircraft identifier to the logical AGN address of the isolation system such that the aircraft has a unique subnet address.

19. The method of claim 18 further including the step of defining an airborne router as the isolation system, the airborne router having a device identifier such that the aircraft identifier and the device identifier define the logical AGN address for the airborne router.

20. The method of claim 18 further including the step of defining a web server as the isolation system, the web server having a device identifier such that the aircraft identifier and the device identifier define the logical AGN address for the web server.